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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,522	12/21/2001	Hiroki Nakahira	04995/045001	9282

22511 7590 02/23/2004

ROSENTHAL & OSHA L.L.P.
1221 MCKINNEY AVENUE
SUITE 2800
HOUSTON, TX 77010

EXAMINER	
KOSOWSKI, ALEXANDER J	
ART UNIT	**PAPER NUMBER**
2125	11

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/051,522	NAKAHIRA ET AL.	
	Examiner	Art Unit	
	Alexander J Kosowski	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-4* is/are allowed.

6)☒ Claim(s) *7-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 May 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1) Claims 1-4 and 7-9 are presented for examination in light of the amendment filed 8/28/03. Claims 5 and 6 have been canceled.

Allowable Subject Matter

2) Claims 1-4 are allowed.

3) The following is an examiner's statement of reasons for allowance:

Referring to claims 1-4, the claims are allowable for the reasons cited by applicant's representative in the "Remarks" section of the amendment filed 8/28/03.

4) Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Specification

5) The objections to the specification from the last office action are hereby withdrawn in light of the amendment filed 8/28/03.

Claim Objections

6) The objections to the claims from the last office action are hereby withdrawn in light of the amendment filed 8/28/03.

Claim Rejections - 35 USC § 112

7) The 112 rejections of the claims from the last office action are hereby withdrawn in light of the amendment filed 8/28/03.

Claim Rejections - 35 USC § 103

8) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9) Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hisao (Translation of Japanese publication number 05-158515), further in view of Kiya (U.S. Pat 4,776,247).

Referring to claim 8, Hisao discloses a control apparatus for numerical control adapted for a cutting machine in which a cutting tool is rotated around the tool axis to an arbitrary position, wherein a Y-axis offset value of a cutting edge of said cutting tool on a coordinate with respect to said cutting machine is calculated in accordance with a rotation angle of said cutting tool (Abstract, Paragraph 0006 and Paragraph 0009, whereby a Y-axis can be interpreted as any axis, depending on coordinate orientation). However, Hisao does not explicitly teach that the offset value is indicated on a display.

Kiya teaches a control apparatus for numerical control machining using a lathe whereby determined offset values are displayed on a display screen of the NC apparatus (col. 3 lines 21-26).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to display the offset values taught by Hisao on a display since this would allow an operator to view the resulting offsets, and potentially allow the operator to add, revise or delete values as desired (Kiya, col. 3 lines 17-20).

10) Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisao and Kiya as shown above, further in view of Naoki et al (Translated Japanese publication number 2000-141164).

Referring to claim 7, Hisao discloses a control apparatus for numerical control adapted for a cutting machine in which a cutting tool is rotated around the tool axis thereof to an arbitrary position, wherein an X-axis value of a cutting edge of said cutting tool on a coordinate with respect to said cutting machine is calculated in accordance with a rotation angle of said cutting tool (Abstract and Paragraph 0006) and an X-axis offset value after the rotation is calculated using equations (Paragraph 0014-0016). However, Hisao does not explicitly teach the specific equation limitations shown in claim 7, nor that the offset value is indicated on a display.

Kiya teaches a control apparatus for numerical control machining using a lathe whereby determined offset values are displayed on a display screen of the NC apparatus (col. 3 lines 21-26).

Naoki teaches a control apparatus for numerical control adapted for a cutting machine having a turret which can be turned to an arbitrary position whereby there is a turning angle (Paragraph 0021), and an X-axis value of the tool and an Z-axis value of the turret (Drawing 12).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize X-axis values of the tool and turret as values in the invention taught by Hisao and Kiya since tool and turret dimensions are critical to determining distances to the cutting edge of a tool in a cutting machine having a turret.

Therefore, it would also have been obvious to one skilled in the art at the time the invention was made to display the offset values taught by Hisao on a display since this would

allow an operator to view the resulting offsets, and potentially allow the operator to add, revise or delete values as desired (Kiya, col. 3 lines 17-20).

In addition, it is respectfully submitted that the use of formulas such as those in claim 7 which contain trigonometric functions to determine what is effectively coordinates for a vector based on angles of rotation are well known in the art, and that the skilled artisan could have used any plurality of values, in addition to the angle of rotation, to calculate coordinate offsets in the apparatus taught by Hisao and Kiya since a tool correction value which automatically changes according to the angle of a tool makes numerical control easier (Naoki, Paragraph 0059), and since some form of equations are necessary to compute an offset based upon multiple variables.

Referring to claim 9, Hisao discloses that a Y-axis offset value of said cutting edge of said cutting tool on coordinates with respect to said cutting machine is calculated in accordance with the rotation angle of said cutting tool (Abstract and Paragraph 0006, whereby a Y-axis can be interpreted as any axis, depending on coordinate orientation). However, Hisao does not explicitly teach a Y-axis wear compensation value and a X-axis wear compensation value are indicated in relation to said X-axis offset value and said Y-axis offset value after the rotation.

Kiya teaches a control apparatus for numerical control machining using a lathe whereby wear compensation values are established (col. 3 lines 3-11).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize wear compensation values in the apparatus taught by Hisao since this would allow offset amounts to be adjusted to take into account wear on the tool being used (Kiya, col. 3 lines 3-5), which would lead to more accurate cutting.

Response to Arguments

11) Referring to claim 7, Applicant's representative argues that the present invention has an advantage in that it provides "for a control apparatus that numerically controls a cutting machine in which the cutting tool is rotated around not only the turret axis but the tool axis as well" and that Hisao "does not show or suggest a control apparatus that can numerically control a cutting machine capable of rotation about both a tool axis and a turret axis". In response, examiner notes that there is no indication in claim 7, as currently amended, of the cutting machine being capable of rotating about a turret axis. The claim merely implies that there may be an X-axis value of a turret, not that this value may actually change.

In addition, still referring to claim 7, Applicant's representative also argues that both Kiya and Naoki do not teach a control apparatus that can control a cutting machine capable of rotation about both a tool and a turret axis. However, in response, examiner notes that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In addition, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Kiya is used to teach displaying offset values and Naoki is used to teach the use of tool correction values. In addition, whether or not Kiya and Naoki teach this limitation is irrelevant as the limitation is not present in the claim as currently amended, as noted above.

Referring to claim 8, applicant's representative again argues that Hisao "does not show or suggest a control apparatus that can numerically control a cutting machine capable of rotation about both a turret axis and a cutting tool axis. In response, examiner again notes that there is no indication in claim 8, as currently amended, of the cutting machine being capable of rotating about a turret axis. There is no indication of a turret axis in the claim.

In addition, still referring to claim 8, applicant's representative argues again that Kiya does not show or suggest "a control apparatus that can numerically control a cutting machine capable of rotation about both a turret axis and a cutting tool axis". In response, examiner once again notes that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In addition, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Kiya is used to teach displaying offset values. In addition, whether or not Kiya teaches this limitation is irrelevant as the limitation is not present in the claim as currently amended, as noted above.

As a whole, the features which Applicant relies on for argument are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns,* 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). As such, the Examiner respectfully submits that Applicant fails to appreciate the breadth of the claims as presently amended.

Conclusion

12) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 703-305-3958. The examiner can normally be reached on Monday through Friday, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 703-308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. In addition, the examiner's RightFAX number is 703-746-8370.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Alexander J. Kosowski
Patent Examiner
Art Unit 2125

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100